

## **2.0 Proposed Project and Alternatives**

This section provides a detailed description of the proposed project, including a description of the proposed route, project components, construction issues and sequencing, and operations and maintenance. This section also discusses the No Action alternative as required by NEPA, and alternatives considered but rejected. It also provides a list of permits and approvals that either have been obtained or will be obtained for project construction.

### **2.1 PROPOSED PROJECT AND FEDERAL ACTION (AGENCY AND ENVIRONMENTALLY PREFERRED ALTERNATIVE)**

The UPRR proposes to construct, operate and maintain a new second mainline track between Kelso and Cima, California, a distance of 19 miles (Figure 2-1). The proposed route for this new mainline would pass through lands managed by the NPS in California, specifically, the Preserve. The federal action is the approval and issuance of a Special Use Permit by the NPS for the use of the park roads to access the project site. Compliance with NEPA is a pre-condition of an NPS Special Use Permit. The Environmental Assessment fulfills this requirement.

Currently there is a single mainline track with five siding tracks spaced along this corridor, all of which are located adjacent to and east of the existing mainline track. All of these sidings will be removed and replaced with new mainline track (Figure 2-2). The new mainline track will be located parallel to and east of the existing mainline within UPRR existing right-of-way (Figure 2-3).

The UPRR widened the railbed in 1983-84 as part of a capacity expansion plan for the corridor, however, construction of the track was delayed due to market conditions. As a result, except in areas adjacent to the existing bridge abutment walls, and in locations where crossovers will be constructed, the existing railbed is of sufficient width to construct the new second mainline, thus eliminating any major fills or embankment widening on the east side of the track. To reduce impacts on adjacent sensitive land, all new signal equipment berms will be constructed on the west side of the tracks, in the area between the tracks and Kelso-Cima Road. All new construction will occur within UPRR owned right-of-way.

There are twenty-six bridges along the project corridor. Six of these bridges occur within existing siding tracks. These bridges, although already double tracked, will require widening of four feet in order to accommodate the new mainline, which will be constructed 20 feet from and parallel to the existing track. The existing siding tracks are currently a distance of 16 feet from the mainline, which does not meet current UPRR safety and operational standards of 20 feet between tracks. The remaining twenty bridges occur in existing single track sections and will be widened 20 feet to accommodate the new parallel mainline (Figure 2-4). In addition to the bridges, 14 existing box culverts will require east end wall modifications (Figure 2-5).

Figure 2.1 – Proposed Project Construction Site Locations

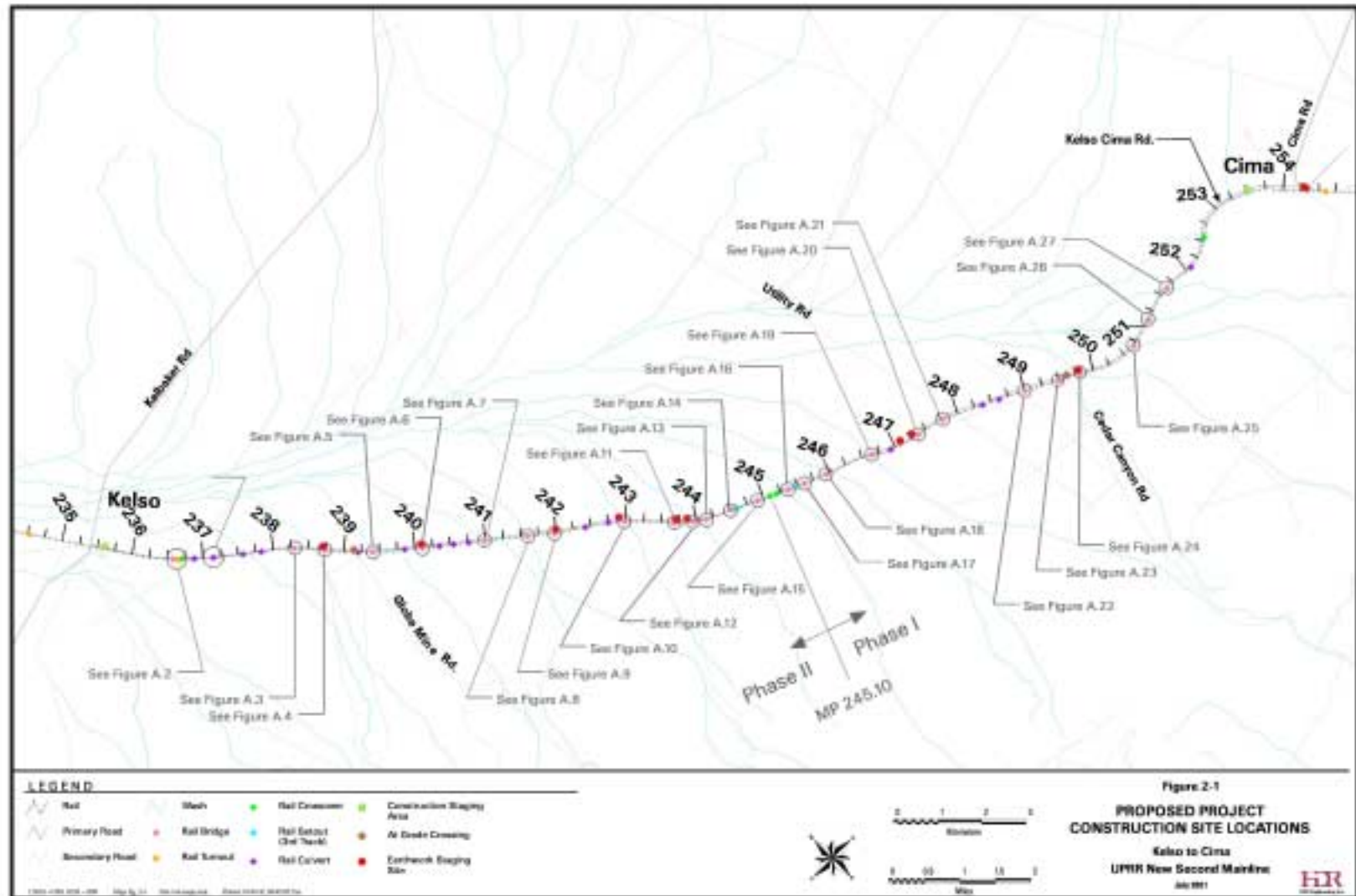


Figure 2.2 – Signal Pad Construction

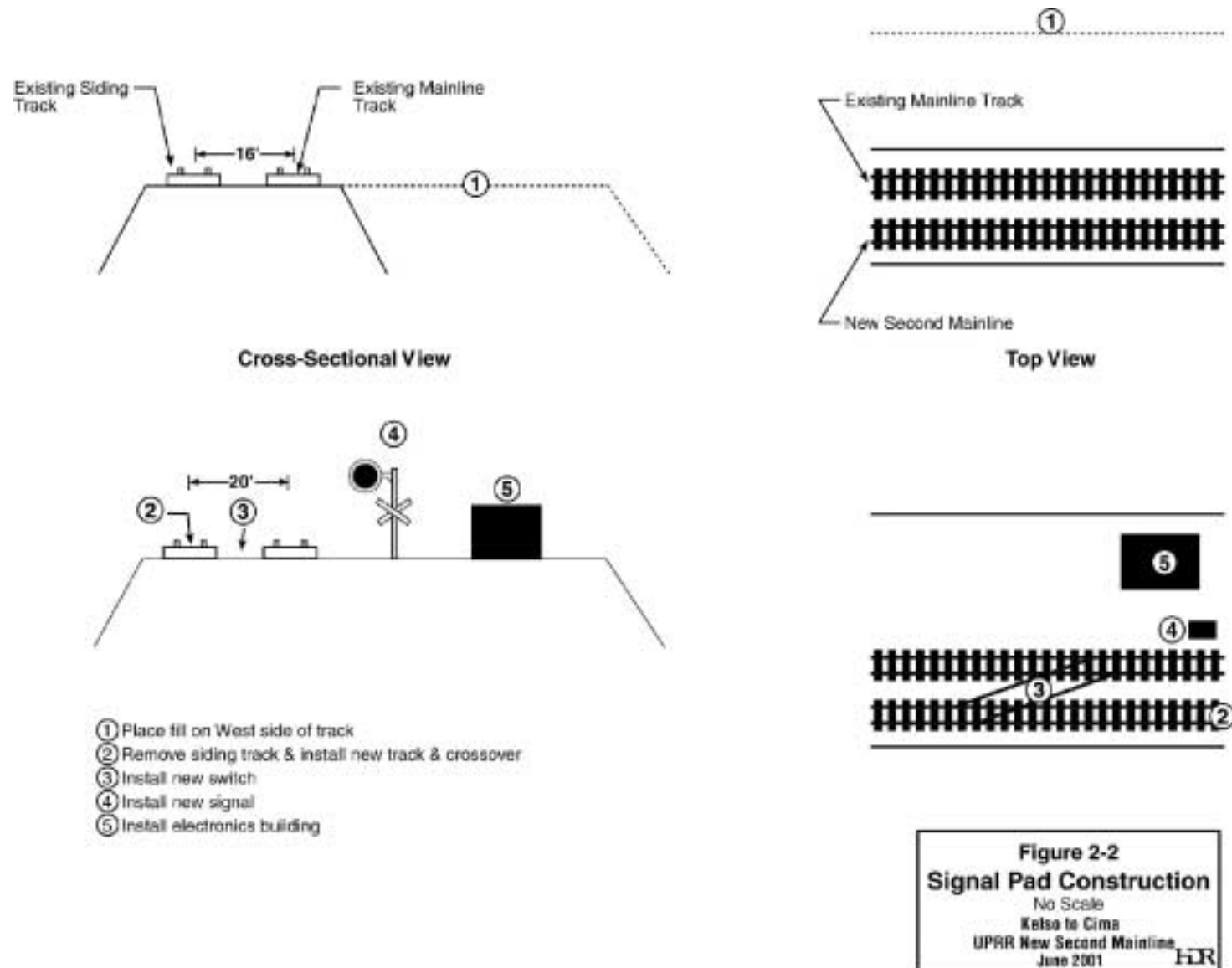
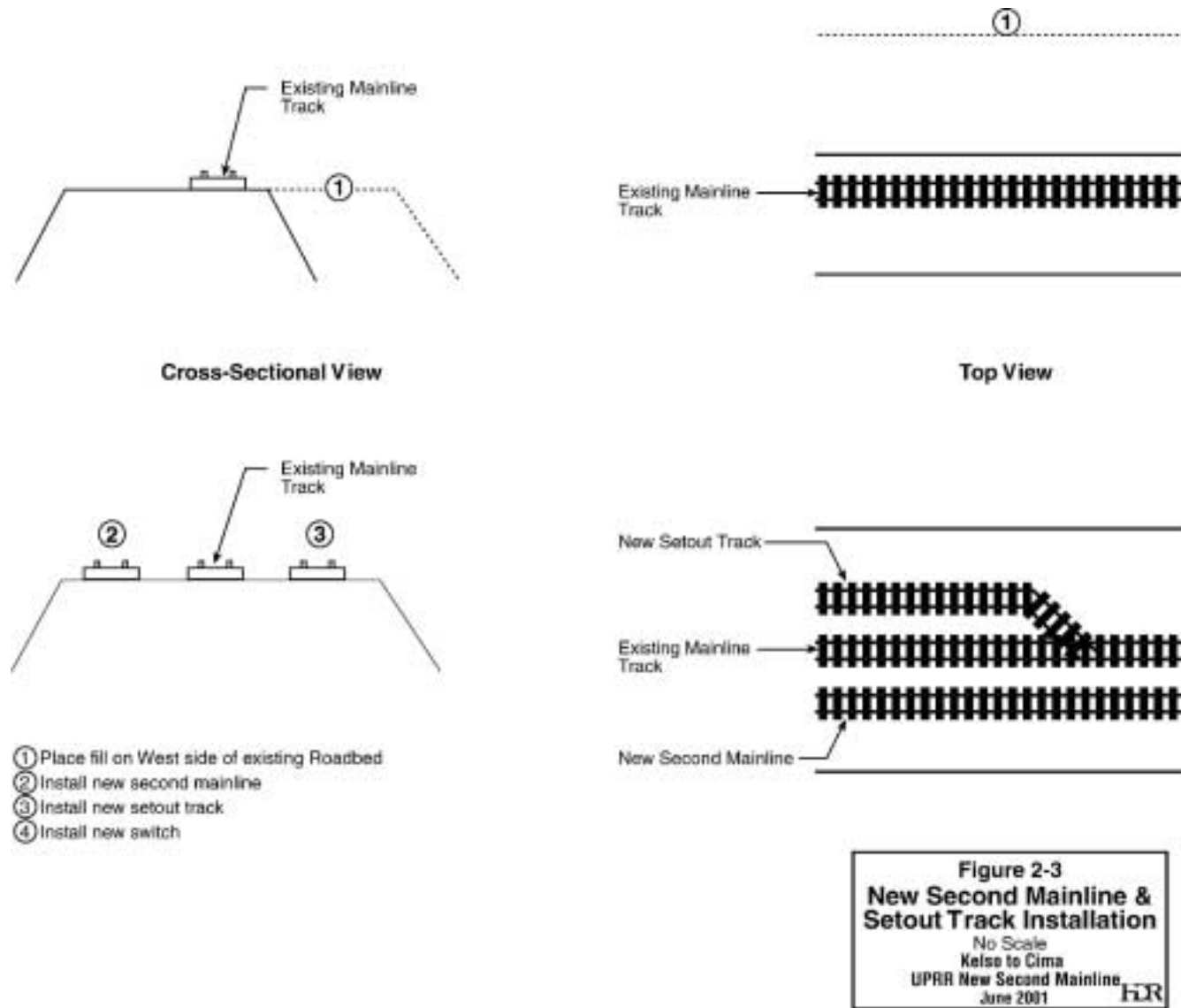
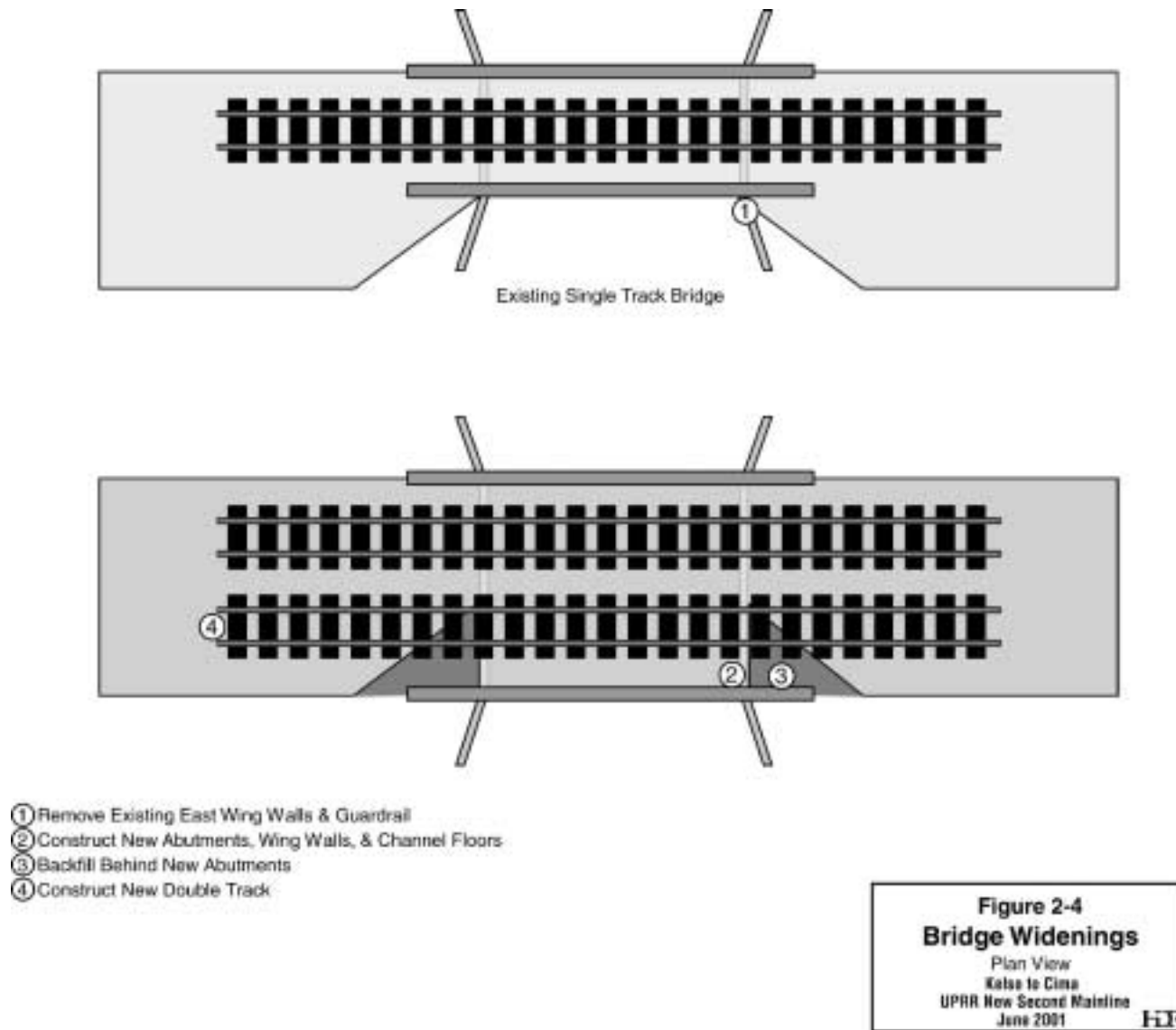


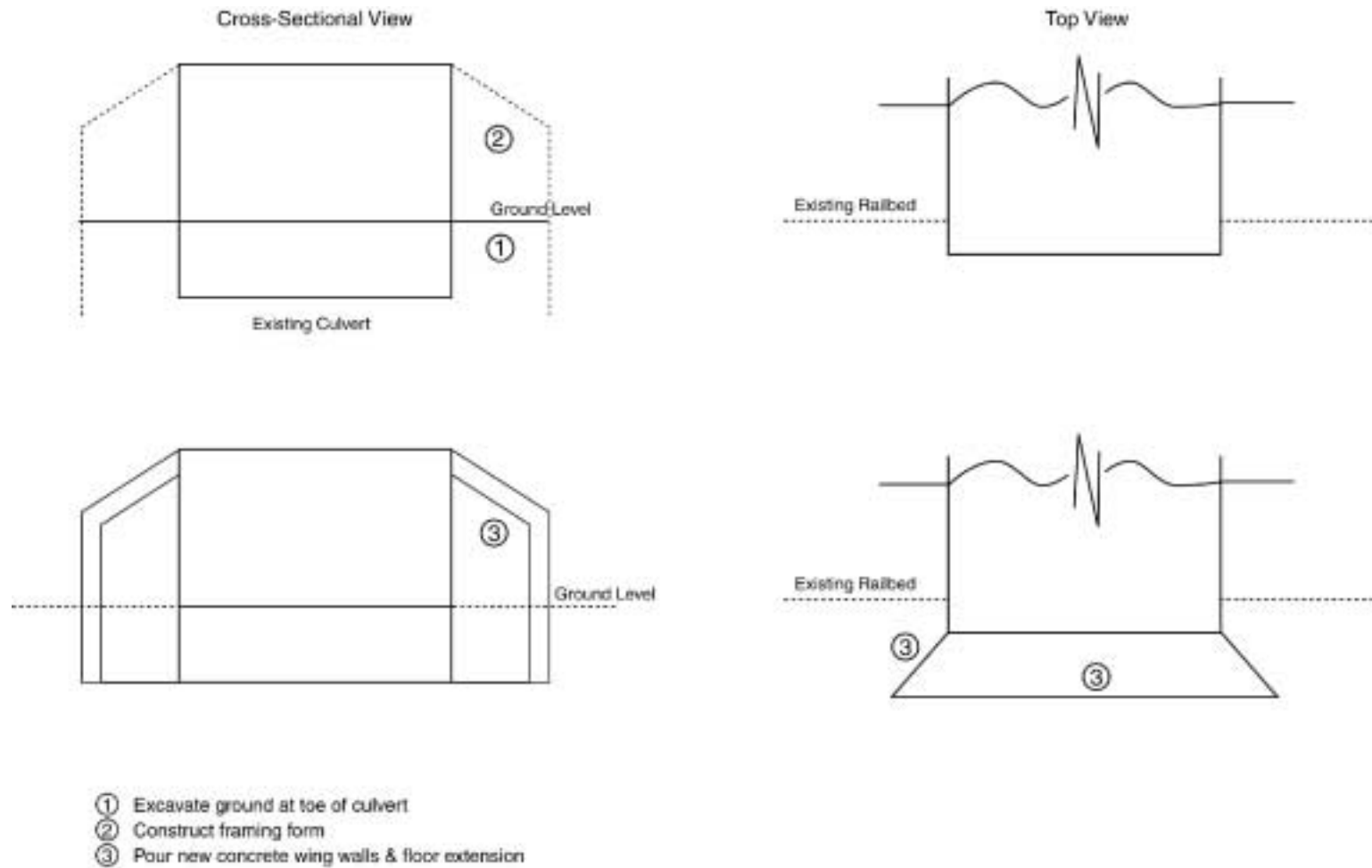
Figure 2.3 – New Second Mainline & Setout Track Installation



**Figure 2.4 – Bridge Widening**



**Figure 2.5 – Culvert Modifications**



**Figure 2-5  
Culvert Modifications**  
No Scale  
Kelso to Cima  
UPRR New Second Mainline  
June 2001  
HR

### 2.1.1 Project Components

The work will involve the construction of a new second main line track between Cima (Railroad Milepost 254.64) and Kelso (Milepost 233.84), California. The bulk of the earthwork was completed in 1983-1984. As a result, only minimal earthwork is now required to construct the new main track. In the vicinity of the bridges, additional excavation and backfill will be required to construct the bridge abutments, channel floors, and cutoff walls for the new main line track.

The project is divided into two phases of construction based on the Amtrak/UPRR Company operating agreement to provide daily passenger service between Los Angeles, California and Las Vegas, Nevada. Phase 1 work, Cima to Dawes, is the minimum passenger service capacity improvements required for operating the proposed train service temporarily. Phase 2 work, Dawes to Kelso, completes the improvements needed to operate the passenger service on a permanent basis. Phase 2 construction will most likely commence immediately after Phase 1. The frequency of the proposed Amtrak service after Phase 2 is complete is two trains per day, one in each direction.

This phased approach provides an opportunity for the NPS and the UPRR to modify and improve the construction operations plan in Phase 2 based on lessons learned during construction of the Phase 1 improvements.

The following is a description of the major work items involved in building this project. It is not intended to be a construction sequence. Engineering drawings of each of the project components are provided in Appendix A.

#### Phase 1 Cima to Dawes

The following is a description of the major work items involved in constructing Phase 1 from Cima (MP 254.64), California to Dawes (MP 245.10), California. A detailed construction schedule and work sequence is provided in the Construction Operations Plan.

Major work elements include:

- Removal of existing tracks at:

Cima (MP 254.57 to MP 252.57)

Chase (MP 251.01 to MP 249.78)

Elora (MP 247.85 to MP 246.62)

Elora House Track (MP 246.84 to MP 246.68)

All retired track material including rail (except for 3,000 feet of continuously welded rail [CWR] that will be reused for the east setout track), ties, tie plates, anchors, joint bars, nuts and bolts, and spikes will be removed from the project site and either recycled or disposed of properly outside of the Preserve. The removed track material will be sorted and temporarily stored at Cima yard before removal from the project.

- The existing power/communication line will remain to power the new switches, but will be relocated outside of the east setout track berm between MP 245.7 and MP 245.3 about 15 feet further east. Existing signals located at MP 252.61, MP 251.05, MP 249.83, MP 248.9, MP

247.9, MP 246.67, and MP 245.3 will be relocated to the edge of the embankment temporarily to provide clearance for construction. New signals will be installed at MP 254.57, MP 248.9 and MP 245.0

- A total of 9.74 miles of second main line will be constructed between Cima and Dawes. The track centers (the distance between the centerlines of the existing mainline and the new parallel mainline) will be 20 feet. The new second mainline will be constructed parallel to and east of the existing mainline track on existing embankment constructed earlier. The top of the existing embankment will be stripped of vegetation. In addition, topsoil will also be preserved. The stripped vegetation and topsoil will be placed on the existing side slopes to encourage revegetation. The seed bank existing within the topsoil will aid vegetation restoration projects. A total of 23,069 bank cubic yards<sup>1</sup>(BCY) of excavated materials will be removed from the existing railbed for the entire length of the project. Adjusting for a +10% swell factor and a –5% waste factor, 24,222 BCY of embankment fill is created. The removal of this excess material is necessary in order to construct a properly engineered track section. The grading work will impact a footprint of 39 acres along the entire length of the project, contained mostly on top of the existing widened railbed, but some minor reshaping of the railbed is required. This reshaping will require some minor cuts and fills at limited locations. Reshaping the existing embankment will require 14,911 BCY of the excavated material. No truck hauling of material off-site is anticipated. Fill materials will need to be hauled from one area to another within the project limits. This will be accomplished with dump trucks using the existing paved road as a haul road. The existing dirt access road on the west side will not be used by heavy construction equipment. Construction equipment will operate primarily on top of the existing embankment except when accessing the earthwork staging and equipment turnaround sites. No foreign fill materials will be imported to the site.
- The existing Cima siding switch at East Cima (MP 254.57) will be replaced with a new No. 30 power-operated switch. This will require the placement of 1,509 BCY of fill material to widen the existing rail embankment to the west by 20 feet for a distance of 470 feet along the track. The widened embankment will serve as a staging area for construction of the turnout and will be the permanent location of the signal equipment required for turnout operation. The staged materials will include ties, rail, clips, and other components required for construction of the turnout. About 111 BCY will be from within the footprint of the widened embankment. The widened embankment will have a footprint of 0.5-acre and will be entirely contained within a previously disturbed area that supports routine railroad access and maintenance activities and is completely within the UPRR right-of-way. This is the beginning of the double-tracking project and the northern limit of the project.
- A new number 14 crossover will be installed at West Cima (MP 252.55) to enable access to Cima yard and wye track for trains traveling towards Las Vegas on the new second mainline. This will require the placement of 2,211 BCY of fill material to widen the existing rail embankment to the west by 36 feet for a distance of 480 feet along the track. The widened embankment will serve as a staging area for construction of the crossover and will be the

<sup>1</sup> A bank cubic yard is defined as the volume of earth before it is excavated or after it is placed and compacted. Swell factors for excavation volumes and waste factors for transporting the fill to embankment areas were computed to determine a balanced earthwork plan for the project resulting in no net import of fill.



permanent location of the signal equipment required for crossover operation. Staged materials will include ties, rail, clips, and other components required for construction of the crossover. The widened embankment will have a footprint area of 0.5-acre and will impact both undisturbed and previously disturbed areas that support routine railroad access and maintenance activities and are completely within UPRR right-of-way.

- The east setout track will be constructed at MP 245.66 and will be located parallel to and entirely on the west side of the existing mainline track. Track centers between the existing mainline and the new setout track will be 20 feet. Construction of this setout track will require the placement of 5,643 BCY of fill material to widen the existing rail embankment an average of 30 feet for a distance of 1550 feet along the track. The embankment widening will have an approximate footprint of 1.4 acres and will impact both undisturbed and previously disturbed areas that support routine railroad access and maintenance activities and are completely within the UPRR right-of-way.
- Initially, a number 30 turnout will be installed at MP 245.11. This is part of a future universal number 30 crossover<sup>2</sup> that will be installed between MP 245.27 and MP 244.90 in Phase 2. Crossovers are required to provide switching between the new and existing mainline tracks, allowing passenger trains (traveling in either direction) to pass slower freight trains traveling up grade in the direction of Cima. This will require the placement of 4,472 BCY of fill material to widen the existing rail embankment to the west by 40 feet for a distance of 970 feet along the track. This is one half the length that will be required when the remainder of the universal crossover is constructed in Phase 2. The widened embankment will serve as a staging area for construction of the turnout and will be the permanent location of the signal equipment required for turnout operation. Staged materials will include ties, rail, clips, and other components required for construction of the crossover. An earthwork borrow site will provide 3,971 BCY of additional fill material required for the embankment widening and balance the earthwork for the entire Phase 1 project. The borrow site will be 50 feet wide by 840 feet long by 3 feet deep. The side slopes will be blended back into the natural contour of the surrounding ground. The projected borrow site is contained within the Phase 2 embankment widening footprint that is required to complete the universal crossover and will be backfilled when Phase 2 is constructed. The footprint of the widened embankment and borrow site is 1.86 acres, and impacts both undisturbed and previously disturbed areas that support routine railroad access and maintenance activities. The size of the borrow site may be reduced if the NPS Construction Coordinator and the UPRR Representative can identify alternate sources of fill material. A potential source is the washout material that has been stockpiled adjacent to the washes by the County of San Bernardino road maintenance crews.
- Twelve existing bridges will be widened to the east, with slightly varied areas of disturbance. The bridge extensions will be constructed with cast-in-place concrete abutments. Spread footings will be used to avoid pile driving activities and their associated noise and vibration impacts. Phase 1 bridge work will include bridges: BR 251.63, BR 251.11, BR 250.69, BR 249.81, BR 249.51, BR 249.00, BR 247.78, BR 247.37, BR 246.65, BR 245.95, BR 245.60, and BR 245.37. The average area of disturbance per bridge is expected to be 1,500 square feet (0.04-acre each). Work at the bridges will produce 443 BCY (includes swell and waste

<sup>2</sup> Universal Crossovers are two crossovers placed close to each other to allow trains to move from one track to the other track in both directions.

factors) of excavation, an average of 37 BCY at each bridge. As part of the bridge construction, the existing rip-rap will be relocated to tie into the new bridge wingwalls. The wire mesh currently used to stabilize the slope will be removed and properly disposed of off-site. Because of previous washout problems, the bridge at MP 251.63 was hydraulically modeled using the 100- and 50-year flood event. Criteria included in the County of San Bernardino drainage manual were used to ensure that capacity of the channel is not exceeded. All bridge openings will be the same as or larger than the existing openings and construction will occur in previously cleared areas only. Concrete for the bridgework will be mixed on site at either Cima or Dawes using a small portable batch plant and hauled to the bridge in cement trucks on the Cima-Kelso road. Concrete may also be hauled to the site from Primm, Nevada if the contractor does not setup a batch plant on site. The expected number of concrete truck trips has been included in Tables 13 and 14 of the Construction Operations Plan.

- Three existing culverts will require east headwall modifications. These will be cast-in-place concrete and will vary in area of disturbance. The average area of disturbance is expected to be 213 square feet per culvert.
- The existing grade crossings at Cima Road, MP 254.34, and Cedar Canyon Road, MP 249.63 will be modified. Cima Road is currently a three-track dirt crossing and will need to be widened to accommodate the wider track center distance. Cedar Canyon Road is currently a single-track, paved crossing, which will become a double-track crossing. The road crossing profile will be modified to the east of the existing track to accommodate the widened track centers and additional track. Improvements to the crossing protection will include new reflectorized, double-faced crossbucks. Additional signage, including number of tracks, will also be installed. All signs and crossing markings will comply with the California Public Utilities Commission, General Order No. 75-C and with County of San Bernardino's design criteria. In addition, in order to increase safety for Park visitors and local residents, this project will also install new flashers and crossing gates at the Cedar Canyon Road grade crossing to warn visitors of approaching trains and prevent them from crossing into the path of oncoming trains. All improvements at the grade crossings will affect existing road shoulders and disturbed habitat.
- The existing 24-inch diameter culvert under Cima Road, adjacent and to the west of the existing track will be replaced. This will require excavating across Cima Road to remove the old culvert and install the new culvert. The footprint of the disturbed area is 300 square feet.

### **Phase 2 Dawes to Kelso**

The following is a description of the major work items involved in constructing Phase 2 from Dawes (MP 245.10), California to Kelso (MP 236.13), California. It is not intended to be a construction sequence. A detailed construction schedule and construction work sequence is provided in the Construction Operations Plan.

Major work elements include:

- Removal of existing tracks at:  
Dawes (MP 243.85 to MP 241.98)

Dawes House Track (MP 243.52 to MP 243.30)

Hayden (MP 239.91 to MP 238.68)

Hayden House Track (MP 238.91 to MP 238.75)

All retired track material including rail, ties, tie plates, anchors, joint bars, nuts and bolts, and spikes will be removed from the project site and either recycled or disposed of properly outside of the Preserve. The removed track material will be sorted and temporarily stored at Cima or Kelso yard before removal from the project.

- The existing power/communication line will remain to power the new switches, but will be relocated outside of the west setout track between MP 244.5 and MP 244.9 about 15 feet further east. Existing signals located at MP 243.88, MP 242.03, MP 239.97, MP 238.74, and MP 236.53 will be relocated to the edge of the embankment temporarily to provide clearance for construction. New signals will be installed at MP 245.10, and MP 236.53.
- A total of 8.77 miles of second main line will be constructed between Dawes and Kelso. The track centers (the distance between the centerlines of the existing mainline and the new parallel mainline) will be 20 feet. The new second mainline will be constructed parallel to and east of the existing mainline track on existing embankment. The top of the existing embankment will be stripped of vegetation. In addition, topsoil will also be preserved. The stripped vegetation and topsoil will be placed on the existing side slopes to encourage revegetation. The seed bank existing within the topsoil will aid vegetation restoration projects. In addition to vegetation clearing, there will be a total of 18,380 BCY of excavated materials stripped from the top of the existing railbed. Adjusting for a +10% swell factor and a -5% waste factor, 19,300 BCY of available embankment fill is created. The removal of this excess material is necessary in order to construct a properly engineered track section. The grading work will impact a footprint of 44 acres along the entire length of the project, contained mostly on top of the existing widened railbed, but some minor reshaping of the railbed is required. All removed material will be used on this project as fill for embankment widening at the crossover locations and for other areas where fill material is required. A total of 11,325 BCY will be used to reshape the embankment. No truck hauling of material off-site is required. Fill material will need to be moved within the project limits. This will be accomplished with dump trucks using the existing paved road. The existing access road on the west side will not be used by heavy construction equipment. Construction equipment will operate primarily on top of the existing embankment except when accessing the earthwork staging and equipment turnaround sites.
- The universal number 30 crossover started in Phase 1 will be completed in Phase 2. This will require the placement of 9,078 BCY of fill material to fill in the Phase 1 borrow site and to widen the existing rail embankment to the west by 40 feet for a distance of 970 feet along the track. This is the second half of the widened embankment that will serve as a staging area for construction of the crossover and will be the permanent location of the signal equipment required for crossover operation. Staged materials will include ties, rail, clips, and other components required for construction of the crossover. The widened embankment footprint is contained within the area previously disturbed by the Phase 1 borrow site.

- The west setout track will be constructed at MP 244.54. This setout track will be 1,546 linear feet from point of switch to point of switch and located parallel to and on the east side of the new second mainline. Track centers between the new second mainline and the proposed south setout track will be 20 feet. The existing railbed in this area is wide enough to accommodate the new south setout track; therefore widening of the railbed to the east is not anticipated.
- A new number 14 crossover will be installed north of Kelso (MP 236.70). This new crossover is necessary to provide trains traveling south on the existing mainline access to the existing train yard at Kelso. This will require the placement of 2,015 BCY of fill material to widen the existing rail embankment to the west by 34 feet for a distance of 480 feet along the track. The top of the widened embankment will serve as a staging area for construction of the crossover and will be the permanent location of the signal equipment required for crossover operation. Staged materials will include ties, rail, clips, and other components required for construction of the crossover. The widened embankment will have a footprint area of 0.5-acre and will impact both undisturbed and previously disturbed area that supports routine railroad access and maintenance activities and is completely within UPRR right-of-way.
- The existing Kelso siding switch at West Kelso (MP 234.47) will be replaced with a new number 30 turnout. This will require placement of 1,559 BCY of material to widen the existing rail embankment to the east by 32 feet for a distance of 810 feet along the track. The top of the widened embankment will serve as a staging area for construction of the turnout and will be the permanent location of the signal equipment required for turnout operation. Staged materials will include ties, rail, clips, and other components required for construction of the crossover. About 865 BCY of the 1,559 BCY will be from within widened embankment footprint. The widened embankment will have a footprint of 0.7-acres and will be constructed utilizing the existing signal equipment berms as much as possible. The areas immediately adjoining the existing signal equipment berms have been previously disturbed and are used for routine railroad access and maintenance activities.
- Fourteen existing bridges will need to be widened to the east, with varied areas of disturbance. The bridge extensions will be constructed with cast-in-place concrete abutments. Spread footings will be used to avoid pile driving activities and their associated noise and vibration impact. Phase 2 bridge work will include bridges: BR 244.91, BR 244.55, BR 244.14, BR 243.96, BR 243.68, BR 242.98, BR 241.98, BR 241.60, BR 240.99, BR 240.11, BR 239.41, BR 238.73, BR 238.30 and BR 236.58. The average area of disturbance per bridge is expected to be 1,500 square feet (0.04-acre each). The bridgework will produce 490 BCY (includes swell and waste factors) of excavation. As part of the bridge construction, the existing riprap slope protection will be relocated to tie into the new bridge wingwalls. The wire mesh currently used to stabilize the slope will be removed and properly disposed of off-site. All bridge openings will be the same as or larger than the existing openings and construction will occur in previously cleared areas only. Concrete for the bridgework will be mixed on site at either Cima or Dawes using a small portable batch plant and hauled to the bridge in cement trucks on the Cima-Kelso road. Concrete may also be hauled to the site from Primm, Nevada if the contractor does not setup a batch plant on site. The expected number of concrete truck trips has been included in Tables 13 and 14 of the Construction Operations Plan.

- Eleven existing culverts will require east end wall modifications. These will also be poured cast-in-place concrete and will vary in area of disturbance. The average area of disturbance is expected to be 213 square feet per culvert and is entirely in disturbed habitat.
- The existing grade crossing at Globe Mine Road (MP 239.14) will be modified when the existing Hayden siding is removed and a new main line constructed at 20-foot track centers. The west crossing approach will be re-graded. Additional signage, including number of tracks, will also be installed. All signs and crossing markings will comply with the California Public Utilities Commission, General Order No. 75-C and with County of San Bernardino's design criteria. All improvements in this area will affect disturbed road shoulders and disturbed habitat within UPRR right-of-way.
- An earthwork borrow site will be excavated to provide 3,342 BCY of fill material to balance the earthwork for Phase 2 and eliminate the need to import non-native soil for construction of the project. The projected borrow site is located at MP 238.7. The borrow site will be 50 feet wide by 700 feet long by 3 feet deep and will cover a footprint area of 0.8-acres. This borrow site will remain after the project is completed so the side slopes will be blended back into the natural contour of the surrounding ground so as not to trap desert tortoise or other wildlife. The size of the borrow site may be reduced if the NPS Construction Coordinator and the UPRR Representative can identify alternate sources of fill material. A potential source is the washout material that has been stockpiled adjacent to the washes by the County of San Bernardino road maintenance crews. The Phase 2 borrow site is located in an area previously disturbed by a train derailment in 1997 and supports routine railroad access and maintenance activities. In addition, the UPRR will help sponsor a NPS led revegetation program. This program can be used to revegetate areas impacted by construction of this project, as well as to revegetate the site of a 1997 train derailment at MP 238.7. This program can be used to study preferred methods of revegetation in the desert environment, and can ultimately result in an increase in beneficial tortoise habitat. A successful revegetation program can also increase the visual experience of the park visitors by restoring certain previously disturbed areas adjacent to Cima-Kelso Rd. The exact level of reasonable sponsorship will need to be agreed upon by the NPS and the UPRR.

## 2.1.2 Construction Impact Avoidance and Minimization Measures and Compensation

The following discussion details construction issues involving impact avoidance and minimization measures and are categorized into a Federal Monitoring Program and Best Management Practices.

### Federal Monitoring Program

The proposed project includes a detailed Federal Monitoring Program for the proposed project that was developed jointly by UPRR and NPS with counsel from USFWS. The Federal Monitoring Program focuses primarily upon individuals and habitat of the desert tortoise (*Gopherus agassizii*), which is federally and state-listed as threatened. However, the Federal Monitoring Program also covers all species, whether faunal or floral, that are identified in the present BA as potentially occurring within the proposed project area and which are federally or state-listed, or proposed for listing, as either threatened or endangered or which are species of special concern.

All procedures specified in the Federal Monitoring Program would be incorporated into the contract documents for all work performed or contracted by UPRR. NPS is explicitly acknowledged to have full responsibility and authority to require compliance by UPRR and its contractor(s) with all conditions placed upon the federal Special Use Permit, including such stipulations as may be made by USFWS and CDFG. The term-of-service applying to the Federal Monitoring Program would include the duration of construction operations and, if necessary, a limited post-construction period such as would be mutually agreed to by USFWS, NPS, and UPRR.

This section describes the duties, responsibilities, and authority of NPS, UPRR, and contract personnel for avoiding and minimizing impacts to environmental resources. The principal biological resources at issue are individuals and habitat of the desert tortoise (*Gopherus agassizii*). However, all other biological resources identified in the Environmental Assessment, as well as historic or potentially historic properties, are also covered by these measures. The procedures described herein shall be incorporated into the contract documents of all work contracted by the UPRR, which also agrees to abide by these procedures.

**NPS Construction Coordinator.** NPS shall, at UPRR's expense, provide a Construction Coordinator and team of environmental monitors (staff and/or contract). The NPS Construction Coordinator will be responsible for:

- Acting as a liaison with UPRR and Contractor Representatives to coordinate the scheduling of environmental monitoring activities
- Monitoring of construction activities for compliance with Special Use Permit conditions, both directly and through the selection and supervision of monitoring personnel
- Counsel and assistance for any necessary impact mitigation actions
- Assistance with any need for wildland fire or other emergency response
- Compliance with UPRR and Federal safety regulations while within UPRR right-of-way of all monitoring personnel

**UPRR Representative.** The UPRR shall designate a representative, who will coordinate with the NPS Construction Coordinator and Contractor Representative(s) throughout the course of the project. The UPRR Representative will be responsible for:

- Briefing the Construction Coordinator, both daily and weekly, on anticipated construction activities and locations
- Providing the Construction Coordinator with updated monthly construction schedules and activities, in a format designated by the UPRR
- Monitoring BMPs placed by the UPRR or its Contractor to avoid or minimize impacts resulting from construction activities
- Placing and removing temporary stop-work orders, as and where necessary, to facilitate impact avoidance or minimization

- Removing any employee from the job site for violating permit conditions or agreed construction methods or procedures.

**Contractor Representative.** Each contractor shall designate a representative, who will coordinate with the UPRR Representative and NPS Construction Coordinator throughout the course of the project on construction related activities. The Contractor Representative will be responsible for:

- Briefing the UPRR Representative, both daily and weekly, on anticipated construction activities and locations
- Providing the UPRR Representative with updated monthly construction schedules and activities
- Monitoring BMPs placed by the Contractor to avoid or minimize impacts resulting from construction activities
- Monitoring construction methods and procedures used by the Contractor to minimize negative impacts resulting from construction activities
- Training and monitoring the contractor's forces on the required environmental conservation measures, as well as construction methods and procedures
- Removing any employee from the job site for violating the permit conditions or agreed construction methods or procedures.

### **Job Briefings**

Daily job briefings will be held among the NPS Construction Coordinator, UPRR Representative and Contractor Representative(s). The purpose of this briefing will be to discuss construction activities planned by the UPRR and/or Contractor and to coordinate monitoring activities for the day. It is anticipated that longer weekly meetings will be held to inform the NPS of the planned construction activities five to ten days in advance. The NPS will use this information to schedule the appropriate monitoring teams.

In addition NPS Construction Coordinator can attend daily work planning and safety meetings of all UPRR and contractor workers. These mandatory meetings cover safety procedures, work activities and sites, review of the days work plan, and various other issues.

### **Stoppage of Work**

The NPS Construction Coordinator and his/her designated monitors shall have authority to place and suspend a temporary shutdown of work being conducted by the UPRR and/or its Contractor(s) where such work does or imminently may result in a violation of conditions placed upon the federal Special Use Permit issued for this project. Temporary immediate shutdown of work at a given location may be authorized for the following reasons:

- Discovery of endangered/threatened species or their nests within or in close vicinity to the construction zone
- Discovery of previously unknown cultural resources within the construction zone
- Construction activities pose an immediate threat to the safety of Park visitors.

Notification of a temporary immediate work shutdown will be given verbally by the designated monitor on location to the UPRR or Contractor Representative in charge and by cellular phone or radio to the NPS Construction Coordinator, who shall also have individual on-location shutdown authority. UPRR and/or Contractor forces shall stop work immediately upon notification, except where stoppage of work would leave the track or signal system in an unsafe condition. In the latter case, all work not directly necessary to restoring the track or signal system to a safe condition shall halt immediately, and remaining work shall cease once the track or signal system is restored to a safe condition.

The NPS may also issue a work stoppage based on noncompliance with the Special Use Permit. Prior to stopping work, the NPS will verbally inform the UPRR Representative of the reason and allow the UPRR 24 hours to correct the problem. Reasons for stopping work include:

- Failure of the UPRR or Contractor to implement BMPs prior to beginning work at a new site.
- Disregard for permit conditions or mandated best management practices.
- Actual or imminent destruction of natural or cultural resources outside the established construction zone limits.
- Damage to facilities owned by the Preserve due to construction activities.

The NPS Construction Coordinator shall provide written notification to the UPRR and Contractor Representatives (if the work involves contractor forces) within 24 hours, identifying the reason for the work stoppage and describing the corrective actions that must be initiated before resuming work. However, where corrective action can be taken immediately, such as relocating a desert tortoise from within the construction zone, said action shall be implemented immediately by the designated monitor on location in order that the temporary work shutdown may be as brief as possible. Written notification would in such circumstances constitute a report of actions taken and completed.

Suspension of a temporary shutdown shall be authorized by the NPS Construction Coordinator and given verbally to the UPRR and/or Contractor Representative in charge either directly in person or by cellular phone or radio, or indirectly via the designated monitor on location. In addition, the NPS Construction Coordinator shall within 24 hours provide written notification of shutdown suspension to the UPRR and Contractor Representatives (if the work involves contractor forces).

### **Corrective Actions**

The NPS shall have the authority to require the following corrective actions to bring the UPRR and its agents into compliance with the permit conditions during construction:

- Immediate restoration of habitat outside of the designated construction areas damaged by UPRR and/or its contractor(s).
- Relocation of desert tortoise from construction areas and collapsing of impacted dens with newly constructed dens nearby, as warranted.
- Field investigation and evaluation of cultural resources, potentially including test excavation and consultation with the California State Historic Preservation Officer, as warranted.



- Immediate restoration of damage caused by construction activities to Park roads that results in potential dangerous conditions to motorists.
- Immediate clean up of any fuel, chemical, or hazardous material spills.
- Continuation of a temporary shutdown until completion of the specified corrective actions.

**Directing Work of Contractor**

The UPRR or Contractor shall be solely responsible for directing the work of their forces in accordance with the approved methods and procedures. The type of construction methods and sequencing of the work are also sole responsibilities of the UPRR or Contractor performing the work, provided that said methods and sequencing comply with the approved Construction Operations Plan and Special Use Permit requirements. The UPRR shall have the right to modify the methods or sequencing of construction, in which the UPRR shall be required to notify the NPS of changes prior to commencing work.

It is also understood that unforeseeable site conditions may require change to the sequence or methods of work in the approved Construction Operations Plan and Special Use Permit. Any changes will be approved by NPS Construction Coordinator prior to implementing the changes.

**Initial Site Inspections**

Pre-construction surveys will be conducted at each phase of the project within 24-48 hours prior to ground disturbance. An authorized biologist will examine and conspicuously mark all occupied burrows within 100 feet of the track for the presence of desert tortoise. An authorized biologist, approved by USFWS, will have demonstrated experience with desert tortoise involving techniques to locate desert tortoise and their sign, including correct tortoise handling. If any desert tortoise burrows were found, they would be assessed for tortoises and eggs. If the burrows are within the direct impact area they would be crushed after tortoises and/or eggs had been relocated. Tortoises and/or eggs would be removed and relocated by an USFWS-approved biologist. Burrows within the construction area but not the direct impact area would be cleared of tortoises and eggs. The entrances would then be blocked to prevent them from becoming reoccupied by other tortoises. Blockages to the burrow entrances would be removed after construction completion. Burrows outside of the limits of construction will be flagged, so that biological monitors could more easily locate them during construction.

Within 30-days prior to construction, construction access routes, staging areas and work limits shall be staked or otherwise demarcated. The NPS Construction Coordinator, the UPRR and Contractor Representatives shall then perform a comprehensive field review to secure mutual understanding of the environmental constraints upon construction operations.

**Daily Inspections**

Daily pre-construction inspections at active work sites and staging areas shall include checking for desert tortoise under all vehicles prior to moving them and inspecting stockpiled materials before working them. Monitors will also check for tortoise within active earthwork and bridge construction zones and perform a drive-through survey of Cima-Kelso Road. Only qualified biologists will move any desert tortoise found. In addition to the daily pre-construction inspections, periodic checks of active work zones throughout the construction day will also be performed.

If an increase of raven population during construction activities is observed with an associated increase of desert tortoise mortalities, the NPS Construction Coordinator and the UPRR Representative shall meet to review the effectiveness of the construction BMPs relating to controlling the raven population.

The NPS monitors shall perform field audits as necessary to assure compliance. In addition, one cultural resource monitor will be present on the project at all times during operating hours, in order to deal with possible unanticipated discoveries of previously unknown cultural resources.

Each biological or cultural resource monitor will be responsible for other issues in addition to his or her specialty. For this reason, the NPS Construction Coordinator shall provide each monitor with a copy or summary of the various permit conditions pertaining to issuance of the federal Special Use Permit, and with instruction regarding proper implementation of the monitoring protocols and procedures.

The final details of the monitoring program, including number of monitors and monitor responsibilities will be outlined in the Biological Opinion and will be incorporated into the construction of the project.

### **Worker Training Program**

The NPS Construction Coordinator shall train designated UPRR and contractor personnel (Train-the-Trainer) to educate all construction personnel regarding the purpose, protocols, and procedures of the monitoring program. This education will include instructions regarding checking for desert tortoise under vehicles prior to moving them, proscriptions against moving or startling desert tortoise, what to look for while driving in the area, and removal of construction debris and litter to reduce potentials for an increase in the raven population. For cultural resources, the education will include basic recognition training and emphasize the importance of immediately pausing work to alert a monitor of any accidental finds. The trainers will be responsible for training new workers before working on the site throughout construction.

The UPRR will develop a desert tortoise procedure card that shall outline the actions necessary to comply with the threatened status of the desert tortoise and the prohibition of take. This card will be distributed to all employees and it will identify person(s) authorized to handle desert tortoise.

During construction activities, signs indicating the following will be posted at the construction trailer site where workers are likely to congregate prior to the days work activities. These signs will be maintained by UPRR as a reminder to all employees. The signs shall state:

- The area is a desert tortoise area
- Desert tortoises are protected by law
- It is illegal for unauthorized persons to handle or harass desert tortoises

### **Best Management Practices (BMPs)**

This section describes the BMPs that the UPRR and its contractor(s) shall follow to avoid adverse environmental impacts and minimize unavoidable environmental impacts. Additional

BMPs relating to construction methods and activities are also included. The BMPs will generally comply with the California Construction Handbook, latest edition.

**Erosion Control Plan.** A storm water pollution prevention plan (SWPPP) will be prepared for this project in accordance with federal and state regulations to control non-point source pollution from runoff. Construction activities that require these measures include bridge construction, and excavation stockpiling. The project sites desert climate, and sparsely vegetated sandy soils, limit the need for and effectiveness of most erosion control measures. This project will use filter fabric fencing and stabilized construction entrances as our primary erosion control methods.

**Silt Fence.** Silt fencing will be placed around bridge abutments and excavation stockpiles where non-compacted soils are exposed to the elements for periods of seven days or greater. The silt fencing will be constructed in accordance with the plans and specifications. Fencing shall be inspected on a regular basis and within 24 hours of any rainfall. The fencing will be removed once the soils are compacted and native topsoil placed on the slopes.

**Stabilized Construction Entrances.** To prevent the tracking of mud or dirt on to the paved Cima-Kelso road, a track-out prevention devices consisting of 12-inch deep layer of 4-inch quarry spalls 30' wide by 50' long will be installed at access points to paved roads. The stabilized construction entrances will be removed once the entrance is no longer need for construction.

**Construction Road Stabilization.** Temporary construction roads should follow the natural contours as much as possible and have grades no greater than 15%. During the rainy season the road may require gravelling to maintain access and limit erosion. A 4-inch coarse of base material (crushed rock or gravel) should applied if gravelling is required. During wet weather the use of unstabilized roads should be restricted as much as practical.

**Dust Control.** Dust control will be a significant BMP for the majority of the work site. Dust control will incorporate BACM/RACM procedures (*South Coast Air Quality Management District, 1998; Mojave Air Quality Management District, 1996*) to mitigate dust impacts associated with construction of the proposed project. The primary method of dust control will be watering of earthmoving areas and non-paved haul roads. The use of chemical dust control stabilizers will not be allowed. Off-highway haul road speeds will be restricted to 20 mph. Track-out prevention devices consisting of 12 inch deep layer of 4 inch quarry spalls or other approved track-out control devices or wash down systems will be installed at access points to paved roads. Cargo compartments of haul trucks will be constructed and maintained so that no spillage or material loss can occur from holes in the floor, sides and/or tailgate of the vehicle.

Water for dust control will be obtained from UPRR water wells in Kelso and hauled to the site in water tanker trucks. The tankers will fill a portable 20,000-gallon skid mounted water tank located near the active work area. Smaller water trucks will apply the water with the work area as needed for dust control and compaction.

**Decompaction, Surface Contouring and Revegetation.** After construction, compacted soils within construction areas will be loosened to a depth of 12 inches using with a bulldozer with a ripper blade. The site will be re-contoured and scarified with natural dips and ridges. The vegetation that was removed from the top of the embankment will be spread out within the re-contoured area to act as vertical mulch and to promote revegetation of native species.

In addition, the UPRR will help sponsor an NPS-led revegetation program. This program can be used to revegetate areas impacted by construction of this project, as well as to revegetate the site of a 1997 train derailment at MP 238.7. This program can be used to study preferred methods of revegetation in the desert environment, and can ultimately result in an increase in beneficial tortoise habitat. A successful revegetation program can also increase the visual experience of the park visitors by restoring certain previously disturbed areas adjacent to Cima-Kelso Rd. The exact level of reasonable sponsorship will need to be agreed upon by the NPS and the UPRR.

***Wildland Fires and Other Emergency Services.*** The UPRR and its Contractor(s) will make every effort to avoid starting or spreading fires along the right-of-way. The following practices will be followed:

- An emergency wildland fire and other emergency response plan will be prepared jointly with the Federal Interagency Communications Center (FICC Phone: 909-383-5651). This plan will provide for temporary access across railroad tracks or detour routes when normal access is blocked by construction. It will also contain a list of required fire prevention/suppression equipment at each work site and a protocol for communications among the NPS Construction Coordinator, UPRR Representative, Contractor Representative(s), and the FICC.
- Road closure notifications shall be provided to the Federal Fire Management Officer and the FICC 24 to 48 hours prior to closure. The UPRR or Contractor will identify the crossing, period when the crossing will be closed, and alternate crossings (including temporary construction crossings) available in case of emergencies.
- An emergency road opening procedure will be developed as part of the “Wildland Fire and Emergency Response Plan”. The plan will establish emergency 24 hour a day UPRR contacts for the Federal Fire Management Officer, County of San Bernardino Communications Center, and the Hole-in-the-Wall Interagency Fire Center to use in the event that a temporarily closed road must be reopened. Once notified the UPRR will reopen the crossing as quickly as practical.
- Open fires or fires in barrels shall be prohibited.
- Flammable and/or otherwise hazardous materials will be properly stored in approved containers at designated areas.
- Machinery and roadway equipment shall be equipped with guards and spark arrestors, which will be inspected daily to insure that they are functioning.
- Flammable debris shall be removed from around the immediate area of each work site during welding, cutting, or grinding operations. A fire shield shall be placed to contain any hot materials, and crews shall not leave the work site before thoroughly checking the area for smoldering fires or hot spots.
- Fire extinguishers will be carried on all construction vehicles.
- Water for fire fighting is available from a portable 20,000 gal tank during earthwork operation.

- Prior to any welding or torch cutting, the adjacent area will be sprayed with water to help prevent ignition of wild fires from hot slag.

**Construction Area Limits Fencing and Inspection.** The UPRR Contractors shall provide temporary construction fencing to designate the limits of work and provide a barrier to prevent desert tortoises from reentering the work area once it has been cleared. Where fencing is designated to be a desert tortoise exclusion barrier, the fence will be installed in accordance with the specifications outlined by the USFWS in their pending Biological Opinion and the NPS in the Special Use Permit. Typically ½” to ¼” wire mesh is used with 6” of the fence laying flat on the ground and 18” standing vertically. Native rocks will be placed on the portion of the fence that lays flat to hold the fence to the ground. The fence will be self-supporting or attached to existing range fence to maintain its integrity. Consideration will be given for the use of less expensive nylon construction fencing with the same mesh size where the fencing will be needed for less than one year.

Temporary tortoise fencing will be installed:

- Along the perimeter of bridge and culvert work sites. The tortoise fencing will be installed as described above. This will prevent desert tortoise from entering open excavations and other areas of active construction. It is expected that only the north, south, and east perimeter will need to be fenced as construction materials and equipment will access the bridge sites from Cima-Kelso Road. The west perimeter will be covered by the Cima-Kelso Road fence described in the next bullet item.
- Along the west side of Cima-Kelso Road. The fence will either be attached to the existing range fence along the corridor or will be staked into place a minimum of 20-feet west of the pavement edge. This will inhibit desert tortoise from traveling from the west, on to and across Cima-Kelso Road where construction activities will be occurring. The fencing may initially be installed for the entire length of Phase 1 (9.5 miles), and then moved south when Phase 2 (9.0 miles) construction begins. The Phase 1 fencing will overlap into Phase 2 for a minimum of 200 feet to prevent tortoise from accessing the active work zones from around the end of the fence. Extra fencing will be brought offsite and recycled on other projects. The NPS may also require that the temporary tortoise fencing along Cima-Kelso road be left in place for a period of five years after construction in order to study its effects on the reduction of tortoise mortalities on Cima-Kelso Road. The final fencing method will be included as a provision of the special use permit.
- Along the east side of active earthwork activities. This will inhibit desert tortoise from entering active construction zones from the east. Earthwork activities will progress within defined zones of 2,000 to 7,000 feet along the existing track, usually bounded on the north and south by existing bridges. As earthwork activities end within one zone and progress to another, the fence will be moved to the new zone. The temporary tortoise fencing will “overlap” the preceding and succeeding zone by a minimum of 200 feet on each end. This will prevent desert tortoise from traveling around the end of a fence and entering the construction zone. Where the earthwork zone is bounded by an existing bridge, the fencing will be tied into the bridge site fencing, thus completely sealing off the earthwork zone. The temporary tortoise fencing on the east side of the project will be installed as described above and staked into the ground.

- All construction area fencing will be removed from the project and recycled on other projects at the conclusion of construction.

The Contractor shall inspect the fencing on a daily basis and repair any damage to the fencing immediately. If evidence of breaching is found, the NPS monitors will be notified to perform a new tortoise survey.

**Access Controls.** The UPRR and its Contractor(s) shall make every effort to minimize the environmental impacts caused by the hauling and spreading of construction materials along the right-of-way. Practices to be followed include:

- In all cases, only previously established and demarcated routes of travel in and about the property shall be used.
- The movement of construction equipment on the east side of the track will be restricted to the top of the existing embankment except at Cima siding where equipment will need to access the east side of the tracks via the existing Cima Road grade crossing.
- The use of west service road by heavy construction equipment (i.e. scrapers, bull dozers, road graders, etc.) will be prohibited. However, supervisory vehicles will be allowed to use the road.
- Sensitive areas (such as washes or cultural resource sites) will be fenced using orange construction fencing to avoid or minimize the impact area of any temporary crossings.
- Use of public roadways shall be restricted to vehicles that normally operate on public roadways.
- Construction access points off of the Cima–Kelso Road will be provided at staging sites, bridge sites and berm areas.

**Maintenance of Traffic and Traffic Safety.** A Maintenance of Traffic plan will be developed by the contractor and will depict the type and location of all signs and other motorist warning devices. The plan will be reviewed and approved by the NPS Construction Coordinator and the UPRR Representative. For both visitor and worker safety, signage will be provided at various intervals on Cima-Kelso Road to warn motorists of slow merging construction vehicles. All signage will meet or exceed criteria set by Part 6 (Construction & Maintenance) of the Uniform Manual of Traffic Control Devices For Streets and Highways. Signage will also be placed near the project limits warning motorists before entering the construction zone and to inform them when they have left the construction zone.

During earthwork activities, flaggers will be placed in advance of active earthwork zones to control both slower moving construction vehicles and visitor traffic. Construction traffic on Cima-Kelso Road will be limited to vehicles that normally operate on public roadways. No heavy construction machinery will operate on Cima-Kelso Road.

Detours are not expected for this project. Temporary closures of the grade crossings at Cima Road, Cedar Canyon Road, and Globe Mine Road will be of short duration, typically less than eight hours, and will be coordinated through the NPS Construction Coordinator and the Federal Interagency Communications Center. At Cedar Canyon Road, a temporary grade crossing can be built adjacent to the existing road. This will allow Park visitor and emergency traffic to cross

during closure of the permanent grade crossing. The intersection of Cedar Canyon Road and Cima-Kelso Road will be flagged during construction of the new grade crossing for both visitor and worker safety. Safety improvements at this grade crossing constructed by this project will include an improved east approach to the crossing and active grade crossing protection devices of flashing lights and crossing gates.

**Staging Area Controls.** Staging areas for this project have been identified at Cima, Dawes, and Kelso. Staging areas will be used for stockpiling construction materials, construction trailers, trash containers, small tools, and temporarily unused equipment. These staging areas will also be used for construction workers parking. Materials and bridge construction equipment will be stored at each bridge site while the bridge is under construction. The bridge gangs will park at the bridge site. Earthmoving equipment and track construction equipment will be parked overnight along the existing embankment and not moved to the staging areas. The following practices will be followed at the designated staging area:

- Designated staging areas will be fenced with temporary chain link fence as required to secure materials or equipment subject to theft or vandalism. Temporary tortoise fencing as described in the “Construction Area Limits Fencing” section will also be attached to the bottom of the temporary chain link fence.
- Proper sanitation facilities such as portable toilets and drinking water will be provided at each site. The number of portable toilets will be based on the gang size for the work being performed and vendors servicing schedule.
- Trash containers with raven-proof, self-closing covers will be provided at each site.
- Parking areas will be designated at each site for personal vehicles.
- Each site will be kept in a neat and orderly condition.
- Materials will be stored in a manner that prevents items from being blown away.
- Hazardous and flammable materials shall be stored in approved containers and in accordance with all federal, state and local requirements.

**Hazardous Materials.** The UPRR and Contractor operations are not anticipated to use or generate any unusual or significant amounts of hazardous wastes. All wastes generated will be disposed of at an approved disposal site outside of the Preserve. Hazardous materials temporarily held on-site will be stored in secure areas and in properly placarded containers. No hazardous materials will be stored within 150 feet of sensitive areas (water wells or washes) along the project.

In the unlikely event of hazardous material release preparedness and response will be in accordance with the “Union Pacific Emergency Response Plan” dated March 5, 1999

**Spill Prevention and Containment.** Spill prevention and containment during construction will be in accordance with the UPRR’s “Spill Prevention Containment and Counter Measure (SPCC) Plan for CA, Kelso #10. These include the following:

- Response procedures

- Reporting requirements
- Spill cleanup equipment and absorbents
- Agency notification requirements
- Spill containment equipment and materials will be stored at Cima and Kelso staging areas so that response time is kept to a minimum.

**Vehicle & Equipment Maintenance.** Vehicles and equipment will be well maintained and inspected on a regular basis for leaks. On-site maintenance will be performed at least 150 feet from any wash or well. When lubricating or changing fluids proper containment procedures will be used. Waste fluids will be removed and disposed of according to applicable regulations.

**Vehicle & Equipment Fueling.** On-site fueling will be performed at least 150 feet from any wash or well. When fueling, proper procedures will be used to prevent overfilling. Any spills will be reported and cleaned up according to SPCC plan.

**Fuel Storage.** Because of the remoteness of the construction site it is anticipated that diesel fuel, lubricants and hydraulic fluids will be stored at designated staging sites. Lubricants and hydraulic fluids will be stored in approved containers of no larger than 55-gallon capacity. Diesel will be stored in double-walled, skid-mounted tanks of no larger than 1,000-gallon capacity. The storage tanks will have emergency cutoffs. Secondary containment devices will be utilized for fuel and lubricant storage. No fuels will be stored within 150 feet of sensitive areas (water wells or washes) along the project. Small fuel trucks will fuel construction equipment along the right-of-way. Tank trucks will refill the storage tanks.

**Trash and Sanitation Controls.** Good housekeeping is of the utmost importance in the prevention of accidents, injuries and fires. Clean up will be conducted on a daily basis. Disposing of waste, garbage, bottles, refuse, or other such materials at other than designated locations is prohibited. Trash and sanitation control BMPs to be followed include:

- Contractor will provide covered self-closing refuse containers at the active work sites and empty them as needed by a licensed contractor.
- Work areas will be policed on a daily basis to prevent construction debris from being blown off site.
- Portable toilets will be located in convenient level areas at least 100 feet from sensitive areas.
- Sanitary wastes from portable toilets will be collected as needed by a licensed contractor.
- The number of toilets will be in accordance with OSHA standards.

**Parking and Transportation Controls.** The project will require construction workers to commute to the job site primarily from Baker and Primm, Nevada, where motel rooms are available. Due to the specificity of the project, only UPRR employees and specialized contractors will be used to construct this project. To reduce the number of vehicle trips, procedures to be followed include:

- Local workers will be encouraged to car pool to the work site.



- Workers temporarily living in motels will be encouraged to car pool to the work site.
- Workers will not be paid for commuting mileage. This is expected to indirectly force carpooling to the project site thus reducing vehicle miles traveled.
- Workers will park in designated sites at Kelso, Cima, or Dawes and be bused to the specific work site if the gang size warrants.
- Small gangs such as bridge gangs will be allowed to park near the job site.
- Parking along the Cima-Kelso road will be restricted.
- A plan for bussing of workers from the construction yard parking areas to the specific work sites will be developed and agreed to by the NPS Construction Monitor and the UPRR Representative.

***Use of Chemicals During Construction.*** The use of chemical solvents and other volatile chemicals for construction of this work is not anticipated. Solvents may be used during the normal maintenance of some construction equipment. Practices to be followed when using chemicals on-site will include:

- Storing only the minimum amount of chemicals necessary for construction of the project.
- Storing all chemicals will be in secured areas at the designated staging sites or in maintenance vehicles.
- Storing, using, and disposing of all chemicals in accordance with manufactures instructions and federal, state, and local regulations.
- Maintaining a record, by the UPRR and contractor, of all chemicals used in accordance with OSHA.

### **Habitat Compensation**

The USFWS will require compensation for desert tortoise habitat. Surface disturbance for the 19-mile long project would total 108 acres. One hundred of these acres affect previously disturbed habitat such as the top of the existing railroad embankment, existing dirt access roads, and the existing grade crossings. About eight additional acres will be new disturbance due to signal pad construction, bridge widening and culvert wing wall additions, and portions of the earthwork staging areas.

The NPS will require that the UPRR meet compensation acreage requirements for desert tortoise habitat loss either by transferring suitable parcels of UPRR land to the NPS for inclusion in the Preserve, or by transferring a pre-determined sum of money to the National Park Foundation for purchase of private lands within the Preserve. The final compensation method will be negotiated between the NPS and the UPRR.

Habitat and compensation is further discussed in depth in Section 4.8.1 of this Environmental Assessment.

## 2.2 No ACTION ALTERNATIVE

There is currently no passenger rail service between Los Angeles and Las Vegas and under the No Action alternative, this would remain as such. The UPRR would not construct a new second mainline to improve capacity for passenger and freight trains between Kelso and Cima. As a result, UPRR has indicated that Amtrak would be unable to provide passenger rail service on this corridor. Vehicular traffic between the two cities would continue to primarily utilize I-15. As mentioned earlier, the higher speed passenger trains are necessary to meet currently projected demand by attracting people out of their automobiles and onto trains. Passenger service is not possible without these improvements due to the significant freight train delays that would occur as a result. The No Action alternative does not meet the project purpose and need.

## 2.3 ALTERNATIVES CONSIDERED BUT REJECTED

UPRR has considered alternatives to the proposed action, in addition to the No Action alternative described above, but has rejected them as infeasible and not meeting the project's purpose and need. The following alternatives were considered but rejected.

***Improve existing sidings.*** Under this alternative, UPRR would improve the five existing sidings so that freight trains could “pull over” and wait for Amtrak trains to pass. This alternative was rejected, as being operationally infeasible, since the UPRR has indicated that stopping freight trains would create inordinately costly time delays for UPRR and its customers. Another option would be to stop Amtrak trains in the sidings to wait for freight trains to pass. This was determined as infeasible as the trip time from Los Angeles to Las Vegas would be too long to encourage people out of their cars and onto the train. Further, providing sufficient “pull over” room would require lengthening the sidings about as much as is proposed for the new second mainline. Additionally, this alternative does not meet UPRR safety standards for track center distance for passing sidings.

***Alternative routes.*** The UPRR corridor between Los Angeles and Las Vegas, in which the proposed project is located, is the only rail link between those two cities. Building a new mainline in a new corridor outside of the existing right-of-way was not considered due to prohibitive cost and potentially major environmental impacts.

***Provide passenger rail service on the existing track without improvements.*** The UPRR has determined through train operations modeling completed in 1998, that the addition of the two passenger trains on the corridor without the new second mainline would cause delays of both freight and passenger trains. In order for the passenger service to be successful, the trip time between Los Angeles and Las Vegas has to be comparable to making the trip by automobile. This would give travelers between the two cities a viable alternative to traveling by car. Past Amtrak Desert Wind passenger service between these two cities was discontinued in 1997 due in part because of low ridership because of the trip times between Los Angeles and Las Vegas.

***Build the new second track on the west side (Kelso-Cima Road side) of the existing track***  
Under this alternative, the UPRR would build the new second mainline track on the west side of the existing embankment rather than the east side as proposed in the proposed project description. This alternative was rejected from further consideration because of the additional environmental impacts and increase cost it would cause. The existing rail embankment is

currently wide enough for the new second mainline track. However, the extra “space” is on the east side of the existing track, on the same side as the existing sidings. If the new track were built on the west side, excessive amounts of fill would need to be imported to widen the embankment to the west in order to support the new track. The importing of fill material could introduce non-native invasive plant species that could choke out native species. It would also result in the permanent loss of desert tortoise habitat under the widened embankment footprint.

These four project alternatives were evaluated and rejected from further consideration. For this reason, this EA evaluates the proposed action as presented herein, and the No Action alternative.

## 2.4 PERMITS AND APPROVALS

Implementation of the proposed project will require federal and state approvals. In addition to the NPS Special Use Permit, other permits, approvals and consultations required are listed below:

- Endangered Species Act Section 7 Consultation – US Fish and Wildlife Service (USFWS)  
*Status: Formal Section 7 Consultation began May 29, 2001.*
- National Historic Preservation Act Section 106 Consultation – California State Office of Historic Preservation (SHPO)  
*Status: Concurrence with determination of no adverse impacts, 10/10/2000*  
*Consultation reinitiated on July 27, 2001 due to project modification, determination pending.*
- Clean Water Act, Section 404 Permit – United States Army Corp of Engineers (USACE)  
*Status: Pending jurisdictional determination*
- California Fish and Game Code Section 1603 Streambed Alteration Agreement – California Department of Fish and Game (CDFG)  
*Status: Pending review of BA and EA*
- California Fish and Game Code Section 2080.1 Incidental Take Permit – CDFG  
*Status: Pending review of BA and EA*
- Porter-Cologne Water Quality Control Act – Regional Water Quality Control Board, Lahontan Region  
*Status: Pending review of EA*
- Construction Permits - Mojave Air Quality Management District (MAQMD)  
*Status: Pending review of EA*

This EA will be used as support for the aforementioned consultations and permit applications.